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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/596,493	06/15/2006	Jinxing He	STD-0903-USPT	7305

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EXAMINER	
DANG, KET D	

ART UNIT	PAPER NUMBER
3742	

NOTIFICATION DATE	DELIVERY MODE
03/22/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/596,493	HE ET AL.	
	Examiner	Art Unit	
	KET D. DANG	3742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *4 January 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-5 and 8* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 3-5, and 8* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 June 2006* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on January 4, 2010 has been entered.

This office action is responsive to the amendment filed on January 4, 2010. As directed by the amendment: claims 1 and 4 have been amended, claims 2 and 6-7 have been cancelled. Thus, claims 1, 3-5, and 8 are presently pending in this application.

Response to Arguments

2. Applicant's arguments with respect to claims 1, 3-5, and 8 have been considered but are moot in view of the new ground(s) of rejection.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a) because they fail to show "an anode bar and a cathode bar on either side of the substrate" as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office

action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

4. Claims 1, 3-5, and 8 are objected to because of the following informalities:

In claim 1, the phrase "a upper bar" at line 18 is improper. It is suggested to replace the word "a" with "an". Appropriate correction is required.

In claim 4, the limitation "(Insulated Gate Bipolar Transistor)" at lines 2-3 is improper. It is suggested to remove the parenthesis "()" and the acronym "IGBT" in the claim. Appropriate correction is required.

In claim 5, recites the limitations "the controlling means for speed, pulse frequency and pulse width control" at lines 1-2 is improper. It is suggested to replace a "comma" with the word "and" because they are two different limitations and also put the word "the" right after it. Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1, 3-5, and 8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, the phrase "each bar" at line 20 renders the claim indefinite because it is unclear and indefinite to the relationship between "each bar" and "an upper bar or a lower bar and/or an anode bar or a cathode bar" at lines 18 and 19 and to whether they are the same or different. Further clarification is required to either further differentiate (the exterior region) or provide proper antecedent basis. The phrase "the electrode-pins" at lines 20, 24, 28, and 29 render the claim indefinite because they are unclear and indefinite to the relationship between "the electrode-pins" and "M electrode-pins" at line 20 and to whether they are the same or different. Further clarification is required to either further differentiate (the electrode-pins) or provide proper antecedent basis. The limitation "the electrode matrixes" at line 23 renders the claim indefinite because It is unclear and indefinite to the relationship between "the electrode matrixes"

and "at least two or more electrode matrixes" at line 14 and to whether they are the same or different. Further clarification is required to either further differentiate (the exterior region) or provide proper antecedent basis. Furthermore, the phrase "each pair of the electrode-pins" renders the claim indefinite because it is unclear and indefinite to the relationship between "each pair of the electrode-pins" and "M electrode-pins" at line 20 and to whether they are the same or different. Further clarification is required to either further differentiate (each pair of the electrode-pins) or provide proper antecedent basis.

In claim 8, the phrase "the electrode-pins" at line 2 renders the claim indefinite because it is unclear and indefinite to the relationship between "the electrode-pins" and "M electrode-pins" at line 20 in claim 1 and to whether they are the same or different. Further clarification is required to either further differentiate (the electrode-pins) or provide proper antecedent basis. Furthermore, the phrase "each pair of electrode-pins" at line 2 renders the claim indefinite because it is unclear and indefinite to the relationship between "each pair of electrode-pins" and "M electrode-pins" at line 20 in claim 1 and to whether they are the same or different. Further clarification is required to either further differentiate (each pair of electrode-pins) or provide proper antecedent basis.

In general, the claims are ***replete*** with such 35 U.S.C. 112, second paragraph issues. The above notes are exemplary with respect to all of the 35 U.S.C. 112, second paragraph rejections present in the instant case, **all claims must be carefully**

reviewed and appropriate corrections should be made in response to this rejection.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1, 3, and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lindemann et al. (US Pat No. 5,012,825) in view of Bolt et al. (US 4,635,653) and further in view of Beane (US Pub. No. US 20080145466 A1).

9. Regarding claims 1 and 3, Lindemann et al. disclose the punch device (Abstract) comprising: a mechanism for winding and unwinding (See Figure 1, spool); a correcting control unit 31 (Fig. 5); a tension control unit 17 (Fig. 5); a hydraulic mechanism (Col. 8, lines 28-30); a punch mechanism (Abstract); a high frequency and high voltage generator (Col. 8, lines 52-55); a detecting unit (See figure 5 testing device; Col. 7, lines 61-66); a controlling means for speed (Col. 8, lines 57-60); a pulse frequency and pulse width control (Col. 8, lines 57-60); and a user interface (Only requires the ability to interact with the perforating apparatus such as adding and removing the carts of figure 1); an electrode elevating mechanism (Col. 8, lines 48-52); wherein the punching mechanism comprises at least two or more electrode matrixes 52a,b (Fig. 5; Col. 1, lines 18-22); each electrode matrix is made up of N sets of electrode bars longitudinally

arrayed which form an angle with the movement direction of the substrate (Col. 7, lines 35-46), wherein each pair of the electrode bars comprises a upper bar and a lower bar, and each pair of the electrode bars an anode bar and a cathode bar on either side of the substrate (Col. 1, lines 31-33), and each bar is provided with M electrode-pins 52a (Fig. 7a; Col. 11, lines 18-21); the electrode-pins provided on the respective upper bar and the respective lower bar are aligned with each other, (1.ltoreq.N.ltoreq.100) (Col. 1, lines 18-22) and (1.ltoreq.M.ltoreq.50) 52a (Fig. 7a); wherein the movement direction of the substrate crossing the electrode matrixes is vertically downward or upward (Col. 8, lines 48-52) and the axial direction of the positive and negative electrode-pins is horizontal 52a (Fig. 7a; Col. 11, lines 14-21); wherein the electrode elevating mechanism comprises a control computer 76 (fig. 5) and a hydraulic control system (Col. 8, lines 8-37), the control computer simultaneously controls alignment of each pair of the electrode-pins (col. 8, lines 44 – col. 9, lines 7).

With respect to claim 5, Lindemann discloses wherein the controlling means for speed (Col. 8, lines 57-60), pulse frequency and pulse width control includes a single interface for the detecting unit, a computing central processor (Col. 9, lines 20-36), an output interface for signals of speed, an electrical pulse frequency and impulse width, module embedded in the computing central processor 76 (fig. 5) for controlling the speed, the electrical pulse frequency and the impulse width (Col. 9, lines 21-36).

Lindemann et al. fail to show the angle is changeable by adjusting the position of either end of the electrode bars; and a default interval between the electrode-pins of each pair of the electrode-pins by utilizing the hydraulic control system.

However, an angle being changeable by adjusting the position of either end of the electrode bars is known in the art. Bolt, for example, teaches an angle being changeable by adjusting the position of either end of the electrode bars (col. 4, lines 15-23). Bolt further teaches such a configuration provides a mean for controlling the direction of movement of the electrode bars (col. 2, lines 7-20).

Similarly, a default interval between the electrode-pins of each pair of the electrode-pins by utilizing the hydraulic control system is known in the art. Beane, for example, teaches a default interval between the electrode-pins of each pair of the electrode-pins by utilizing the hydraulic control system (abstract; para. 0006, 0007, and 0012). Beane further teaches such a configuration provides a better control and communication between the position of each pair of the electrode-pins and a computer (para. 0014).

It would have been obvious to one of ordinary skill in the art to modify Lindemann with the angle is changeable by adjusting the position of either end of the electrode bars of Bolt in order to provide a means for controlling the direction of movement of the electrode bars. Similarly, it would have been obvious to one of ordinary skill in the art at the time of invention was made to modify Lindemann with a default interval between the electrode-pins of each pair of the electrode-pins by utilizing the hydraulic control system of Beane in order to provide a better control and communication between the position of each pair of the electrode-pins and a computer.

10. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lindemann et al. (US Pat No. 5,012,825) in view of Bolt et al. (US 4,635,653), Beane (US Pub. No. US 20080145466 A1) as applied to claims 1, 3, and 5 above, and further in view of Schnetzka et al. (US Pat No. 5,898,554).

11. Regarding claim 4, Lindemann, Bolt, and Beane disclose the claimed invention as set forth above, except for wherein the high frequency and high voltage generator generates high power and high frequency voltage with an IGBT tube and a high frequency and high power booster.

However, generator generates high power and high frequency voltage with an IGBT tube is known in the art. Schnetzka et al. teaches wherein the high frequency and high voltage generator generates high power and high frequency voltage with an IGBT tube and a high frequency and high power booster (Abstract). Schnetzka further teaches such a configuration provides high current and high voltage with conventional circuit components (col. 1, lines 40-47). It would have been obvious to one of ordinary skill in the art at the time of invention was made to modify Lindemann in view of Bolt and Beane with an IGBT tube of Schnetzka in order to provide high current and high voltage with conventional circuit components.

12. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lindemann et al. (US Pat No. 5,012,825) in view of Bolt et al. (US 4,635,653), Beane (US Pub. No. US 20080145466 A1) as applied to claims 1, 3, and 5 above, and further in view of Schmidt-Kufeke et al. (US 4,278,871).

13. Regarding claim 8, Lindemann in view of Bolt and Beane discloses the claimed invention, except for wherein the default interval between the electrode-pins of each pair of electrode-pins is 0.5-5mm.

However, wherein the default interval between the electrode-pins of each pair of electrode-pins is 0.5-5mm is known in the art. Schmidt-Kufeke et al. teach wherein the default interval between the electrode-pins of each pair of electrode-pins is 0.5-5mm (see figure 4; col. 4, lines 42-65). It is known in the art to vary electrode-pins sizes according to article made and also to speed up the production. It would have been obvious to one of ordinary skill in the art at the time of invention was made to modify Lindemann in view of Bolt and Beane with the default interval between the electrode-pins of each pair of electrode-pins is 0.5-5mm of Schmidt-Kufeke in order to vary electrode-pins sizes according to article made and also to speed up the production.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Helms et al. (US 4323082) disclose an apparatus for making holes in webs of wrapping material for cigarettes or the like. Meaker (US 2372508) discloses electrical perforation of paper and other fabrics.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KET D. DANG whose telephone number is (571) 270-7827. The examiner can normally be reached on Monday - Friday, 7:30 - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoang Tu can be reached on (571) 272-4780. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/KET D DANG/
Examiner, Art Unit 3742

/Stephen J Ralis/
Primary Examiner, Art Unit 3742